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ABSTRACT

A total of 146 students enrolled in 21 programs in 11 vocational-technical (VT) schools participated in a 9-month qualitative study. Focus group interviews were conducted throughout Connecticut; all interviewees were students enrolled in shops nontraditional for their gender. Females reported four reasons for attending a VT school: family legacy, alternative to comprehensive high school, desire to learn a trade, and influence of teachers and guidance counselors. Factors that influenced their trade choice varied widely among the schools. Comments about peer attitudes and treatment by teachers ranged from positive to negative. Many females described graphically the harassment in school shops. Some articulated concerns about careers in nontraditional occupations. Some teachers of females said they had adjusted teaching styles to accommodate girls; others were not comfortable with girls in their classes. Few males entered vocational shops nontraditional for their gender. They reported varying reasons for choice of VT schools, supportive teachers, and male peer pressure. Teachers of males were generally supportive of males and commented that females accepted boys in nontraditional classes. Action strategies were recommended to improve recruitment and peer interactions, minimize harassment, promote equality in the shop environment, and promote a gender-fair learning environment. (Appendixes include a list of field sites and interview guides.) (YLB)

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Acknowledgements

This project was made possible due to the assistance and cooperation of many individuals.

We are grateful to Gail O. Mellow, former co-director of VERTEC, who, in addition to conceptualizing the project design, conducted student interviews and assisted with data analysis. Her ideas, commitment to sex equity, and creativity inform all parts of this report.

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We appreciate the assistance of Theodore S. Sergi, director, Division of Vocational, Technical and Adult Education, for bringing this project to fruition.

Several individuals from the CSDE Division of Vocational, Technical and Adult Education have also provided technical assistance on this project. In particular we wish to thank Joan Briggaman, assistant superintendent, and Arthur R. Quimby, superintendent, for their help in facilitating our entry into the vocational-technical schools.

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Above all we are grateful to the teachers and students who participated in our interviews and who spoke honestly and freely about their experiences.

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Graphic Design: Shannon Stern-Salb, Tri-S Associates

IT'S OUR SHOP, TOO!

A Study of Students in Nontraditional Occupations in Connecticut's Vocational-Technical Schools

VOCATIONAL EQUITY RESEARCH, TRAINING, AND EVALUATION CENTER
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Introduction

In January, 1989, the Vocational Equity, Research, Training, and Evaluation Center (VERTEC) published a report entitled Gender Equity in Connecticut's Vocational Technical Schools: A Status Report. The document detailed participation rates of students in Connecticut's state secondary vocational-technical schools (hereafter, v-t schools) and offered a compilation of enrollments and completions during the 1984 to 1987 school years. The report disclosed a significant underrepresentation of females in vocational education programs statewide, and underscored the low percentages of pupil enrollments in shops nontraditional for students' gender. It was these findings that prompted VERTEC to look further into the status and personal experiences of students in Connecticut's v-t schools.

In February, 1989, VERTEC began what would become a nine-month qualitative study of students in nontraditional programs at the v-t schools. After securing permission from the State Department of Education, Division of Vocational-Technical and Adult Education, focus group interviews were conducted statewide. A total of 146 students currently enrolled in 21 programs in 11 v-t schools participated. In each instance, interviewees were students enrolled in shops that were nontraditional for their gender.

Methodology

Interview Process:

After securing permission from the State Department of Education, Division of Vocational, Technical and Adult Education and the school directors to conduct field research in the v-t schools of Connecticut, focus group interviews were conducted beginning in February, 1989. Focus group interviews were selected as the most appropriate data collection method in which to learn about the classroom experiences and learning environments of students enrolled in the programs chosen for the study. This particular research technique consists of small numbers of respondents questioned in a group meeting that facilitates interaction and discussion among interviewees. Twelve interview questions (field tested at two vocational school sites in March) were designed to elicit information in a variety of areas, each of which was related to students' school and classroom experiences with peers, teachers, counselors, and administrators.

Interviews lasting approximately one-half hour were conducted in each of the sample sites. Focus group meetings, rarely larger than fourteen members per session, consisted of same-sex participants in grades nine through twelve. (In some cases ninth-grade students in exploratory were omitted from the process because they had yet to declare their trade preferences.) Using researchers trained in focus group techniques, VERTEC matched interviewers with respondents by gender in order to maximize student comfort: female interviewers directed focus groups of female students; a male interviewer conducted group sessions of male students.

In order to ensure accuracy in data collection, prior to the focus group interviews, VERTEC received students' permission to tape record the sessions. Respondents were guaranteed anonymity and confidentiality; VERTEC alone analyzed and archived the tapes. Interviewee citations are omitted from quotations contained in this report.

Data Analysis:

A substantive effort was made to elicit information from all the focus group participants. After completion of the interviews, VERTEC staff commenced the qualitative study of respondents. All comments, quotes, and statements made by the subjects were carefully analyzed and sorted. Similar statements or comments were then categorized, thus reducing a large, cumbersome data set to a more manageable and meaningful one. The emergent categories were then given a "label" based upon the content they described. For example, a female student's comments regarding the need to attract more ninth-grade students to her trade, along with other comments reflecting a wider range of possible recruitment strategies, would be included together under the label RECRUITMENT. Once groupings were identified, all comments relating to a single category were enumerated beneath the label. Thus, the qualitiative analysis involved the continual identification and labeling of broad categories to delimit the numerous comments made by interviewees.

Interpretation of the Findings:

In qualitative research whenever differing perspectives exist among interviewees, each is presented in order to accurately portray the full range of responses. Thus, the reader may find what appear to be contradictions within the various sections of this report. However, such dicotomous viewpoints are merely a reflection of

the differing experiences of the respondents. For example, some interviewees stated that they had received strong emotional support from friends and family about their choice of a nontraditional shop; others described specific instances in which they were dissuaded from attending. Similar dualities, evident throughout this report, underscore the conflicting messages students receive and the diversity that characterizes their v-t experiences.

Organization of the Report

The following pages contain the information that emerged from the interview process. There are four sections in the report, each of which is devoted to detailing interviews with the following individuals who participated in the study:

- **Females in Nontraditional Occupations**
- **Teachers of Females in Nontraditional Occupations**
- **Males in Nontraditional Occupations**
- **Teachers of Males in Nontraditional Occupations**

Each section of this report is further subdivided into subsections which reflect the dominant themes that emerged from the interviews.

Paragraphs in indented italics are directed quotes from the interviewees. These quotes were chosen because they best illustrate the dominant themes being discussed. Because we guaranteed the students anonymity, they are not identified by shop or school.

Paragraphs following the double triangles at the end of each section are commentary of the researchers.

NUMBER OF INTERVIEWEES

Female Students	118
Male Students	28
Teachers of Females in Non-Traditional shops	23 males
Teachers of Males in Non-Traditional shops	3 Females 1 Male

A total of 146 students in 21 programs in 11 v-t schools were interviewed. These programs were selected because they came closest to having an enrollment of 20% non-traditional students.

WOMEN IN NONTRADITIONAL OCCUPATIONS

Reasons for Choosing V-T Schools

Interviewees were asked why they decided to enroll in a v-t school. Respondents reported four key reasons for attending a v-t school.

Family Legacy

In case after case students mentioned that their parents, brothers, sisters and other relatives had participated previously in vocational education programs. Because of this family legacy, many students were more open to enrolling in v-t schools as members of their own family once attended the same school.

"I just decided on my own that it would be a challenge and it would be different than going to a regular high school."

An Alternative to the Comprehensive High School

A number of interviewees also mentioned that they were looking for an alternative to the comprehensive high school.

> *I didn't want to go the regular high school and just sit there through classes all day, and just look at a blackboard all day.*

> *I just decided on my own that it would be a challenge and that it would be different than going to a regular high school. . . . I came here because it's different.*

A few interviewees believed that v-t schools would offer "a change of pace" and promote new friendships. In addition, many respondents claimed that vocational education was an alternative for the

non-college-bound student. Other students, however, stated that they planned to attend college after high school graduation.

Desire to Learn a Trade

Many of the interviewees expressed a strong desire to learn a trade; they believed that trade schooling was essential prior to entry into the workforce. Furthermore, the respondents claimed that having a trade would provide them better job opportunities and higher paying employment.

"You get more than just a regular education . . . a trade."

> *I enrolled because I could start a job right after high school. You get more than just a regular education . . . a trade.*

> *It's a better paying job when you go to this school. My sister went to regular school. She just graduated and she doesn't have a job.*

Influence of Teachers and Guidance Counselors

Some interviewees believed middle-school teachers and guidance counselors were influential in helping them choose vocational education. However, students did not mention what (if any) prior contact they had had with the v-t school guidance departments. Students were asked several questions about the influences in their schooling decisions, yet few were able to recall specific recruitment techniques that encouraged them to enroll in a v-t school.

Connecticut's v-t schools monitor student participation rates in trade programs yearly. These demographic profiles suggest that vocational education—like other curricular offerings—is affected presently by a drop in school-age enrollments. Increased numbers of students in nontraditional occupations could offset this picture of decline.

Reasons for Choosing the Shop

The factors that influence trade choice and the control students have over placement in the shops of their choice vary widely among the v-t schools.

"I grew up around auto mechanics. I wanted this shop. It's in the family."

Support from Family Members

Students also mentioned that shop choices were influenced by advice from family members, especially from those individuals with prior vocational education. Interestingly, interviewees mentioned that their trade preferences were based upon the occupations of their fathers, brothers, sisters, or other relatives. In no case were the occupations of their mothers mentioned.

I made up my mind long before I came here. My father is an architect, and I like what he does. He used to bring me to work on Saturdays.

I grew up around auto mechanics. I wanted this shop. It's in the family.

I liked what my father did. It wasn't like he was forcing me to do it.

Opposition from Family Members

Although many family members were supportive of the students' trade choices, others were not. Some parents exerted a negative

influence upon their daughters by reinforcing traditional sex-role stereotypes.

My mother just wanted to know why [I chose the shop]. 'It's a boys' shop,' [she said].

[My family said] . . . it's not a lady's job.

Preference for Physical Activity

Another group mentioned that their trade choices were based upon a preference for active, hard physical and manual labor.

I like getting my hands dirty – getting greasy and oily and dirty. That's why in a way I wanted to take an auto mechanics course. It's fun.

Going out in the field, and learning is a lot better than staying in here [classroom].

Influence of Counselors and Teachers

Some respondents mentioned that their shop preferences were favorably influenced by counselors at the v-t schools. Others believed that their teachers in the exploratory program were very influential in helping them make a selection.

Support and Opposition from Peers

Several female interviewees said their peers attempted to influence them:

"They [friends] wanted you to choose a shop with them instead of taking the shop I wanted."

"I wanted to take auto mechanics, but I changed my mind because I would be the only girl. Guys make it hard for girls."

Of particular concern to these interviewees was the low number of female enrollees in nontraditional occupations.

Students unable to enroll in their first or second preferences were often assigned to trade offerings not of their initial choosing or interest.

> *I wanted to take auto mechanics, but I changed my mind because I would be the only girl. Guys make it hard for girls. 'If she's a girl, we're going to interrogate her so we can get her out of the shop.'*

However, several girls claimed that they would have stayed on in the shop regardless of the number of girls. This issue of female underrepresentation in nontraditional shops is important and warrants further attention.

Reputation of the Shop

The reputation of the shop was an important influence when students declared their trade preferences. Various negative or positive stereotypes about the shops and their teachers circulated among the students; this often resulted in fierce competition for trade assignments to the most favored programs and neglect for those less-favored shops.

> *Some students try and discourage you by telling you machine tool is a second-hand shop. It's for monkeys . . . for students who can't get their [first or] second choice. They're automatically put in machine tool because its a 'reject' shop.*

Importance of the Exploratory Program

Throughout the interviews, respondents claimed that the exploratory program was critical to their shop choice: "After exploratory, I liked this shop better than all the others."

Upon entering v-t schools, all ninth-grade students are provided an opportunity to discover the skills and requirements of the various trades. This practice is called the "exploratory program": students are provided at least a one-week exposure in each shop and taught trade-related skills and theory by the regular shop teacher. By the end of the school year, students indicate their trade preferences by rank order; however, trade assignments (for the remaining three years of high school) are based upon a combination of factors such as the grades they received in trade exploratory programs, ability in science and math, trade teachers' recommendations, and staffing and equipment limitations in each shop.

Among the female interviewees contacted in this study, significant numbers voiced their dissatisfaction with the system of shop assignments. Female students unable to enroll in their first or second preferences of a nontraditional shop were often assigned to trade offerings not of their initial choosing or interest.

Although a uniform, fair process of trade assignments inextricably connected to school achievement as well as career success is in place, it may be necessary to design other selection processes for students contemplating occupations nontraditional for their gender. Vocational schools, serious about increasing student enrollments, must re-examine the process of trade assignments: favorable trade assignments are related to good exploratory grades; female ninth graders may be at a decided disadvantage because many, but not all, have little prior technical skill or knowledge about the shop subject. As a result, an inherent unfairness to females is practiced which must be reassessed. New methods of evaluating student capabilities and achievements need to be implemented by the v-t schools.

Peer Interactions

As is often the case with adolescent youth, students are highly sensitive to criticism from their peers. Interviewees' comments about peer attitudes toward their own participation in nontraditional shops ranged from positive to negative.

Positive Interactions with Boys

Many female interviewees believed that they had good relationships with the boys in their shops. Although there was some discussion of an "initiation process" whereby females in nontraditional shops had to prove themselves to their peers, some girls stated thereafter that they slowly gained acceptance.

> *They [guys] almost respect you because you're a girl. They kinda look up to you because you're going the extra mile.*

"They [guys] almost respect you because you're a girl. They kinda look up to you because you're going the extra mile."

Male-female interactions, as described by respondents, often took the form of sibling relationships, whereby males assisted females in completing tasks or assignments or assumed responsibility for activities deemed to be more sex-appropriate for boys. Interestingly, few respondents viewed such actions as demeaning, hindering them from self-directed, independent performance. Female respondents used words such as "family," "helpful," "tight," and "friends" throughout the course of the interview to describe their positive interactions with male peers.

Female interviewees often viewed the attention they received from their male classmates as a positive condition to be sought after.

> *[I] have good relationships with boys in the shop. They ask for advice about their romances. And I help the guys out when they don't know what to get someone for their birthday.*

Few females questioned their role as nurturers or supporters.

Negative Interactions with Boys

On the negative side, some interviewees described both harassment and teasing as behaviors that continually disrupted their ability to fully participate in vocational shops. (Specific examples of harassment are enumerated in the subsection on Peer Harassment in this report.) Oftentimes schooling was a lonely experience for females, especially in instances where only one or two girls were enrolled in a shop.

> *You feel left out when you first go in there – like all boys and no girls. [There's] no one to talk to.*

Some interviewees believed that an increase in the number of girls in each shop would facilitate learning in a nontraditional environment.

> *It helps having more than one girl. If there is only one girl, they are going to antagonize you so far you're going to break down. But each of us holds each other up.*

"It helps having more than one girl. If there is only one girl, they are going to antagonize you so far you're going to break down. But each of us holds each other up."

Even in shops with larger female populations, however, there was accompanying hostility from males who felt that their "territory" was being encroached upon.

My sister is going into plumbing and the guys don't think it's okay for her to go into a shop she likes. The boys are concerned that there's [sic] too many girls in the shop. There are two in auto mechanics, two in auto body, and my sister. They think, 'Oh, God, they're taking over!'

Schools need to help female students change their attitudes about personal dependency on male classmates; such behaviors only limit their equitable participation in shop activity.

Positive Interactions with Girls

During the course of the interview process, several girls spoke of their positive relationships with female peers. In most instances, such camaraderie became a survival strategy; that is, girls' sense of male hostility prompted them to stick together.

Sometimes they [boys] try beating you down and sometimes it hurts, but we stay strong.

With the three of us, we try to stick up for each other. If something goes wrong in the shop with them, . . . it's my responsibility to tell them that it's okay to stay on.

While it is difficult to characterize peer dynamics in nontraditional shops based on this small sample of female interviewees, students' comments do reveal that significant gender bias exists in vocational education. However, students' comments also suggest that females, in particular, do not necessarily view themselves as being slighted or treated inequitably. Sometimes females in nontraditional shops

welcome attention from their peers and often overlook negative male behaviors. Yet because of their desire to integrate into the learning environment and gain peer acceptance, females in nontraditional shops may be forced to endure various forms of male hostility. Remedies such as increasing the numbers of female enrollees in each shop may help to ameliorate these situations. However, considerable attitudinal change by male students toward females in nontraditional shops is needed in order to promote a gender-fair learning environment in vocational education. On the other hand, schools need to help female students change their attitudes about personal dependency on male classmates; such behaviors only limit their equitable participation in shop activities.

Peer Harassment

"You go into a shop where there are all guys and there you are a girl coming into their shop. They're not used to it, so they're going to antagonize you."

In this study many females in nontraditional shops graphically described the rather hostile environment in school shops—an atmosphere created by their male peers, and sometimes condoned by their teachers. While not all of the female students labeled such behavior as harassment, there were many who saw it as a way boys "discouraged girls from participating."

Harassment Based on Gender

The harassment based on gender was pervasive and took many different forms, although the most common was verbal. Girls described verbal harassment as: contending with boys who "tease," "joke around too much," or attempt to "antagonize us."

> *The boys think we have more privileges because we're girls, so they tease us.*

> *If you are working on something the boys harass you. [They say] 'that's not right.' And if you don't work they harass you for sitting there.*

Many of the girls used words like "teasing" and "joking around" rather than harassment; however, there were those who did not find the behavior amusing or take it lightly. Much of the teasing included comments about girls' inability to do the work they were assigned. Some interviewees attempted, often unsuccessfully, to stop this form of harassment.

If you yell at them, they sometimes stop or it gets worse.

At times, girls faced physical harassment, which seemed to be a form of testing or hazing.

Sometimes they hit you, and they think they can hit you like another guy. If you say it hurts, they say, 'what are you, a baby?'

Girls also had to deal with attempts by boys to sabotage their ability to learn or to fully participate in the shop.

"They soldered my toolbox together."

They soldered my tool box together.

. . . or they tell you to sand this and they give you a hand sander and they don't tell you, 'you can use an air sander.'

Many interviewees perceived themselves to be singled out solely because of their gender. Furthermore, since the shops are organized by grade level, female students are most likely to be harassed by their class peers.

Sexual Harassment

Although verbal harassment is problematic, sexual harassment in vocational education is by far the more serious of the two: "The biggest challenge is sexual harassment," said one of the interviewees. Sexual harassment in education is often defined as a teacher demanding sexual favors in return for good grades; but in the school shops, boys used explicit sexual comments, touching, and demands as a means of creating a hostile and offensive atmosphere.

Several interviewees described specific instances of blatant verbal and physical sexual harassment by the boys in their shop. Females subjected to explicit sexual behavior or demands for sex were less common, but not unusual.

A common reaction of most women who are being sexually harassed is to question why they have been singled out for this unwarranted attention. Female interviewees in this study were unique in that they believed they were subjected to all these forms of harassment solely because they were females in what the boys saw as a male shop.

The guys discouraged girls from participating. 'This is a guys' shop; girls shouldn't be here.'

They try to make you leave the shop.

Harassment is a means of asserting power used by boys who feel threatened by having females in "their" shops.

Harassment exists in comprehensive high schools, colleges and universities, and traditional and nontraditional occupations. All the incidents of harassment which were described by the interviewees took place in school shops—the male domain. Harassment is a means of asserting power used by boys who feel threatened by having females in "their" shops.

Reactions to Harassment

Some Girls Ignore It: A small number of girls pretend it doesn't exist, do not see the behavior as negative, or ignore it altogether.

I get along well with all of them. They just have roaming hands, you know.

One girl called her shop "one big happy family" and then described

being hit with a pipe by a classmate. Because of their need for acceptance by males, females in shops sometimes ignore the negative behaviors of their classmates, perhaps not realizing that their passivity may encourage peer harassment.

Others Fight Back: On the other hand, some girls handle shop harassment by fighting back effectively enough so that they aren't "messed with." In a few shops, the girls found solidarity among female peers.

If anyone is being sexually harassed, we should stick up for them.

[In our shop the harassment] is easier to deal with because there are so many sophomore girls. There are only two freshmen girls in the shop out of eighteen, and if they get into a fight, there is no one to turn to.

Few Complain: Formal complaints to teachers or administrators were rare.

We never come out and say we're sexually harassed, but sometimes I think we should. We keep it inside. Then you go home and talk to your parents and they tell you to tell someone higher up, but that's when most of us chicken out. You're scared that you're going to get [the harasser] in trouble, and you're scared he's going to come right back at you.

When one girl tried to file sexual harassment charges, everyone found out, and they harassed her more.

"When one girl tried to file sexual harassment charges, everyone found out and they harassed her more."

Some Teachers Don't Help: The girls believed that they could not depend on their teachers to help them; they thought that the teachers knew about the harassment but could not stop it—or they believed the teachers *would not* stop it. Additionally, interviewees mentioned that some teachers blamed the girls for the situations.

> *[The teacher] couldn't stop the sexual harassment. If he goes and talks to them, they'll just harass us more. We have to do it ourselves. But I think he knows because he hears it.*

> *He lets us handle our own problems. When you have a bunch of guys and one girl, and they are saying stuff, it's not that good.*

> *He doesn't intervene when we are being picked on. He thinks the girls instigate the guys' [behavior].*

> *A lot of times [sexual harassment] is overlooked because it's an embarrassing subject for both the teacher and me. In order for neither of us to get embarrassed it gets overlooked, but I think it's worth the talking—even with a guy teacher [it] is worth the talking.*

Administrators and teachers must shoulder the burden of changing shops from alien, hostile environments to learning climates that welcome equal participation by females.

In one focus group interview, however, the girls stated that harassment rarely took place in their particular shop because their instructors kept all of them much too busy.

From this research it is evident that administrators and teachers must shoulder the burden of changing shops from alien, hostile environments to learning climates that welcome equal participation by females. Many girls in this study were survivors. They stayed in their shops despite the harassment. Evidently, these girls are special: they have learned how to function in a hostile shop environment. Yet no young woman should have to endure continual stressful situations during an entire school year. Until the shop atmosphere changes, many females will find that being a nontraditional student is just not worth it – an invitation to endangerment they would rather be without.

Until the shop atmosphere changes, many females will find that being a nontraditional student is just not worth the endangerment they experience.

Responses to the Shop Environment

Some of the female interviewees articulated their fears and concerns about post-graduate careers in nontraditional occupations—a male work world where harassing behaviors on the job make for difficult working conditions.

It'll always be hard if you go into a nontraditional job for a female, [there will] always be problems.

It's good to get used to it, because if we go and get jobs it's going to be like this.

"My teacher never allowed me enough time to try a project on my own before calling in a boy to help."

Resignation

For many girls, acceptance of the male domain of vocational shops led to feelings of resignation and inferiority. One female, in particular, deprived of a fair share of quality time because the teacher gave the important jobs to the males, felt marginalized by her shop experiences: "It doesn't bother me that they don't give me work." Another girl, trying to wrestle a heavy tool box, complained that her teacher never allowed enough time to try a project on her own before calling in a boy for assistance.

When we go out on a job, he'll [the teacher] look at me and say get the toolbox . . . and then he'll say no: 'Okay guys, get the toolbox.' Sometimes he just says, 'Get this,' and I'll say, 'I'll try, but I don't know if I can.' And he'll say, 'Well, get someone to help you.'

Resistance

The majority of girls interviewed in this study revealed resistance to the terms of their training in school shops. Instead of passive victimization by sexism, females actively contested the hostile shop atmosphere. That is, girls who came into the shops with a strong commitment to learning demanded from their teachers and peers that they be taught the trade.

> *Ever since I came into the shop I knew I wanted the shop, and whether he [the teacher] said or did anything, I knew I wasn't going to leave. Whatever anyone did or said no matter how much it hurt, it wasn't going to stop me. I never intended on leaving; I intended on fighting back.*

"Whatever anyone did or said no matter how much it hurt, it wasn't going to stop me. I never intended on leaving; I intended on fighting back."

Survival Strategies

In this instance negative barriers were actively challenged by the girls. Nowhere was this more apparent than in their interpersonal relationships with boys. Rather than being defeated and resigned to subordinate roles in their shop, female resistance to hostile groups of males was proactive, as exhibited through the use of several essential survival strategies.

Prove Themselves: Females in nontraditional occupations knew that they had to prove themselves to the boys, to show that they were capable and in control of all situations. "You have to show that you are strong enough to do what you want to do," claimed one interviewee on the subject.

Assert Themselves: Some females adopted a "don't mess with me" strategy that sent a powerful message to males who may have contemplated harassment.

Develop Coping Mechanisms: Some females adopted coping mechanisms that disregarded subtle shop-floor sexism. For instance, one women said that when she was working on a shop project, the boys would come over and purposely point out mistakes intended to humiliate and frustrate her in the completion of assignments. "But you learn to block them out," she reported. Another interviewee concurred: "You've got to learn to ignore that; you've got to let it ride."

Institutionalized Policies

"It's great when you carry your own tool-box!"

Females in nontraditional occupations are placed in situations where they have to prove themselves to male peers. Unfortunately, barriers to equitable female participation go beyond peer relationships; they are institutionalized as well in the unwritten policies in some of the vocational shops we visited. Perhaps that is why female interviewees often targeted their teachers as culpable for a charged atmosphere where there were no sanctions against harassment by males.

Empowerment

What keeps females "afloat" in highly oppressive environments where harassment is perceived to be condoned by administration and staff? Because students sometimes resist or renegotiate (with their teachers) the terms of their education and make meaning out of the school experiences they create, it is possible that vocational education may offer some glimpses of empowerment for those who survive. Consequently, several interviewees related that their schooling meant success and achievement in a field previously restricted to only males.

You learn a lot of independence here.

I like the part where my work is finished and I know that I did it on my own.

Finally, when asked how it feels to be a girl in her shop, one student remarked, "Feels good; boys aren't the only ones who can be in the shop." According to her, females had just as much right to participate in school shops as the boys.

Many trade school programs are considered "male shops" because of their historic function in the training of boys for industrial careers. Females who choose to enter these shops early on find themselves in the position of having to establish their legitimacy within a male domain – a place where they are not always wanted or welcomed.

"I like the part where my work is finished and I know that I did it on my own."

Perceptions of Teaching Strategies

Interviewees in this study were asked specific questions about the personal treatment they received from their shop teachers. For instance, the girls were asked, "Are there things your teachers do that make you feel comfortable (uncomfortable) and welcome (unwelcome) in your shop?" Students' responses to the above question revealed differing views on the subject. There was no consensus of opinion either about overly favorable or unfavorable treatment received by females enrolled in shops nontraditional for their gender. In fact, this study suggests opposing perceptions about treatment by teachers ranging from positive to negative.

Positive Influence of Teachers

Some students believed their teachers represented a positive influence in their lives.

Hospitable: Several interviewees remarked that their teachers welcomed girls into their shops, enjoyed having mixed gender programs, and treated both sexes equally.

Girls and boys are not treated differently in this program.

No differences – not in our shop: you are treated equally.

Sensitive: Many students believed that their teachers were sensitive to the needs of females in nontraditional shops. Sometimes teachers provided females additional advice when executing a difficult shop project; at other times their instructors offered reassuring

compliments that set the girls at ease. Several students believed that new teachers were more sensitive to females, "more willing to listen" and treated them "as equal to the boys." Several female interviewees believed that their teachers were "kind-of-like a father figure" or "a really good friend to me."

The teacher is like a father. He can sit down with you and talk, listen to you. If you have a problem, he says 'feel free to ask.'

The teachers made you feel welcome; that's why I liked machine tool.

Supportive: One female believed that supportive teacher treatment required student cooperation and respect for their instructor, a good attitude, and a willingness to learn.

The junior teacher will give you a fair shake in everything. If he knows you want to do everything, he'll help you get through it, but if he knows you just want to slack off, he'll make it miserable for you.

Negative Influence of Teachers

On the other hand, some interviewees believed that shop teachers deliberately created obstacles to equitable participation by females in nontraditional occupations.

Exclusion of Females: Several females charged that the boys received preferential treatment by virtue of their gender. Females were often excluded from favorable shop assignments: restricted to the use of certain machines, asked to do clerical work, or function as tool crib attendants.

Females were often excluded from favorable shop assignments: restricted to the use of certain machines, asked to do clerical work, or function as tool crib attendants.

He [the teacher] favors the boys. We're like dogs who sit waiting for permission to do something.

Most girls do all the paperwork in the shop. The teacher gives all the boys the work. Then 'we' get poor grades.

Half of us girls don't even know how to turn on the press.

The following remarks suggest that female interviewees were marginalized by their shop experiences, placed on the periphery of daily shop activities, and removed from full participation in curricular events.

If there are jobs around the school, the guys will get it.

They [the boys in the shop] get stuff to work on, and we don't. They get to paint cars, and we don't.

Next year we will be able to go out on work study, leave at twelve o'clock, and we have this feeling now that the guys are going to get the jobs. He's going to ask the guys and not bother with us. They're going to have the first choice.

"We're always protected. There are times when you want to say: 'Leave me alone! I can take care of myself!' "

Sex-Role Stereotyping: Interviewees' comments about their male teachers reveal sex-role stereotyping of students: some girls are treated in a protective manner and expected to perform tasks less difficult than those the boys are required to master.

We're always protected. There are times when you want to say: 'Leave me alone! I can take care of myself!'

This study reveals gender bias influences *all* aspects of vocational instruction including shop management, teaching strategies, laboratory assignments, and evaluation of competencies. For instance, one interviewee complained that females did not have the prerequisite technical knowledge to succeed in her shop: "You have to know something already to do something in that shop." In this case the shop teacher upheld inequitable standards of performance that rewarded students (mostly males) based upon their prior technical expertise and skill experiences.

In order to achieve equity, shop teachers will need to adopt gender-sensitive teaching and management styles when working with females in nontraditional vocational subjects. Consequently, shop teachers must be cognizant of curricular activities and teaching strategies that reinforce differential treatment or reward students based solely upon gender.

Gender bias influences all aspects of vocational instruction including shop management, teaching strategies, laboratory assignments, and evaluation of competencies.

Administration and Facilities

This research study did not directly ask respondents questions related to school administration. Yet several interviewees offerred comments about the management of the school and its facilities.

Some girls had failed to receive administrative support when initiating club or sport offerings.

Extracurricular Activities

Several interviewees expressed their desire to participate in or organize extracurricular activities for females, especially in schools where these activities were not offered. Interviewees claimed they had failed to receive administrative help when initiating club or sport offerings.

> *The administration discourages us, because every time we want to do something, they put us down.*

Administrative Role Models

Several interviewees believed that their building administrator, a female director, was a positive role model for girls in that school.

> *With Ms. X here it helps. With her as the director and Mr. Y as the assistant director you get the girls and the guys. Ms. X is usually on the girl's side, so you always have someone there for you.*

The administration and staff never let us give up. I mean every time I want to give up there is always someone saying don't give up.

Bathrooms

One area of concern among respondents was the lack of bathrooms in the shops. In most cases each shop has only one bathroom, which the students see as the boys' bathroom. The interviewees complained that the bathrooms were dirty and the doors would not lock properly. The girls stated that they had to receive permission to use the bathrooms in the hall because they feared an invasion of their privacy when using shop toilets. This practice resulted in difficulties for some because the boys believed girls were receiving special privileges in being able to leave the shop.

"At the pep rally last year, the coach announced all the names, and we were supposed to run out. And I was there, ready to run out, but he didn't call the girls' names."

Sports

Another area of concern was access to sports. Although several schools with a large female population could field girls' sports teams, others could not. Nevertheless, some interviewees suggested that there exists a lack of administrative support in this area.

Girls' basketball is fun, but we don't have pep rallies, [there's no] school spirit. They're strict with us.

In schools with low numbers of female enrollees, girls grudgingly were allowed on coeducational teams.

The coach and the guys don't want girls on the team.

When I joined track last year, it was just me and one other girl, and twenty other guys. At the pep rally last year, the coach announced all the names, and we were supposed to run out. And I was there, ready to run out, but he didn't call the girls' names. So the coaches are against you, they don't want girls on the guy's team.

Lack of equal access to shop bathrooms and school sports denies females the same educational opportunities as males. The girls believed that school administrators, by and large, were inattentive to their needs and incapable of resolving the problems created by their presence as females in nontraditional occupations. In the one striking exception, however, several respondents stated that their director understood the girls' need and acted as a positive role model for females.

Teachers of Females in Nontraditional Occupations

An additional research objective for VERTEC was to assess teachers' attitudes of students in nontraditional classes. VERTEC conducted on-site interviews with 27 instructors in each of the 21 vocational programs named in this report. Twenty-three vocational teachers of female nontraditional students were interviewed individually, for approximately fifteen minutes per person. All of the teachers were male. Some teachers were unavailable for participation in this aspect of the study, however, due to absence or scheduling conflicts. In such instances the departmental head was contacted and agreed to participate in the interview. An eight-question interview guide was designed to elicit instructors' comments regarding peer interactions, skill levels, quality of work, and shop performance among the nontraditional students in their specific vocational programs. Several additional questions were directed at their use of non-sexist curriculum materials as well as their participation in the exploratory programs or other efforts that might promote recruitment of females in shops nontraditional for their gender.

Shop Choices

When asked why so few females enter their trade, vocational instructors offered a diversity of opinions on the question. For instance, there were numerous comments about the "masculine" environment in their shops: "It is a hard, physically demanding trade requiring heavy lifting and climbing," some teachers said; others remarked on the lack of cleanliness in the trade. And a few instructors

mentioned the ever-present "bad language" that might be intimidating for female participants. Several instructors' comments revealed that their trade area was not well known to the general public, hence student recruitment was difficult regardless of gender. Other teachers claimed that because of parental discouragement or the lack of adult role models few girls would be interested in taking their shops.

Some teachers claimed that, because of parental discouragement or lack of adult role models, few girls would be interested in their shops.

Shop Performance

When asked to compare the performance and participation of the girls versus the boys in shop, vocational teachers generally believed that there were few differences.

Positive Comments: There were many positive comments about girls' technical proficiency, attention to details, and overall academic excellence in theory classes – areas, the teachers believed, where females surpassed males in achievement. Vocational instructors were also asked to describe the peer relationships in their shops. An overwhelming majority of teachers said that there were no problems: girls and boys worked well together. In fact, several comments were offered about the comfortable peer working relationships on the shop floor.

Negative Comments: Offsetting these positive remarks, however, were an equal number of negative statements: "The boys don't expect girls to pull their own weight in shop," said one teacher. Another remarked, "boys don't want to work with girls." These instructors perceived difficulties in having female participants, for instance, because there were romantic involvements with fellow classmates, and in one case, the use (and abuse) of hall bathroom privileges – not extended to the males in that class. The instructors blamed female participants for any classroom difficulties that may have erupted from the above incidents. Finally, some instructors'

comments about peer relationships inevitably led to detailing incidents of harassment, or what some respondents called "hazing." In this latter sense, one instructor suggested that once girls worked hard, proved themselves to the boys, and were promoted to upper-level grades, the hazing would stop.

Curricular Materials

Vocational instructors were asked what specific curricular materials they used or strategies they developed to encourage participation by females. Although some respondents said they offered nothing special in the way of curricular enrichment, others revealed they used audio-visual presentations, trade bulletins or magazines, field trips, handouts, and role models for females in nontraditional occupations. One teacher said that he purposely incorporated non-sexist terminology in his classroom lectures.

School Activities

When asked about school activities that may encourage participation by females in nontraditional occupations, most of the respondents mentioned the exploratory program as an effective recruitment vehicle for females. "It helps to expose girls to different trades," one teacher mentioned. In exploratory programs, another teacher suggested, upper-level girls can talk to the entering ninth graders. Several instructors participated in trade orientation sessions for middle-school students contemplating entering the v-t schools. One instructor revealed a preference for talking to parents of female students interested in taking his shop.

Recruitment

Instructors were also asked if they had any specific ideas for the recruitment of females in their trades. Few instructors offered useful advice other than what they were already doing (or not doing); others said they had not thought about specific recruitment strategies for attracting females. Yet several respondents mentioned that they would seek more role models – from among recent graduates or adults in the field – to present to their students. One teacher mentioned using his craft committee (an ad hoc advisory group of representatives from the business and industrial community) for assistance in securing job prospects and placements for females.

Teacher Attitudes

Overall, instructors revealed uncertainty about dealing with female students. Several respondents mentioned they liked having girls in their shops because they are good students; another said they "keep the boys in line." By contrast, one instructor believed that in his shop "we have to kind-of be careful of our girls." Such a paternalistic attitude may translate into differential treatment toward his students. Several instructors commented that girls were not really interested in learning a trade: "I don't think their heart is here" or "Some girls come into here [just] for [the] boys."

Respondents' statements indicate that some instructors may have adjusted their teaching styles and management strategies to accommodate the girls in their classes to avoid potential troubling situations of gender conflict. Other instructors are not comfortable with girls in their classes and, especially when harassment incidents occur, they may purposely ignore the situations or perhaps blame the females for instigating the events.

Instructors revealed uncertainty about dealing with female students.

Males in Nontraditional Occupations

Few boys enter vocational shops that are nontraditional for their gender. Trade areas such as nursing, cosmetology, and fashion design are secondary-level programs attracting male enrollments in Connecticut. Focus group interviews were arranged with boys although the number of participants in each session rarely exceeded four students. A set of twelve interview questions, identical to those used for female interviewees, were designed to elicit information in a variety of areas related to students' school and classroom experiences with peers, teachers, counselors, and administrators. A male interviewer conducted all the focus group sessions.

Male students found teachers in their exploratory program to be very supportive of their future enrollment decisions.

Reasons for Choosing V-T Schools

Students expressed varying reasons for choosing v-t schools and their particular trade areas. One student chose health class because he thought he could make a lot of money. In another case the respondent's relatives had been involved in the nursing field; his male cousin, a paramedic, convinced the boy to enroll in that program.

Recruitment

When asked about recruitment to these programs, the interviewees commented that teachers in their exploratory program were very supportive in future enrollment decisions. One instructor convinced the interviewee that competition for enrollment slots in that

program was intense, but being a male in a nontraditional field would facilitate trade assignments to that class. Evidently the teacher believed one male enrollee would promote future increases of males in other nontraditional areas.

Peer Interactions

Interviewees' comments regarding peer interactions depict rather harmonious cross-sex relationships in vocational programs nontraditional for males. Yet these same respondents said that their male friends were extremely nonsupportive of their trade choices.

> *A lot of friends would tease me about the shop; there were a lot of setbacks. . . . People did not want me to get that shop.*

> *. . . classmates work against me; mostly males. . . .*

Boys entering nontraditional fields have to contend with male peer pressure surrounding gender identity.

Self-Image

Interviewees provided mixed messages regarding their personal self-images as males in a predominately "female" occupation. One boy remarked, "I find it encouraging for other males to go into the field [of allied health]." "I hope more boys come into this shop," said another. However, one respondent, perhaps overly sensitive to the homophobic comments of his peers, feared a loss of masculine self-esteem: "At first it feels good to be the only boy among all those girls," he said, "but then it feels like you might be losing some of your . . . you know, you might be switching over."

The above examples suggest that boys entering nontraditional fields have to contend with male peer pressure surrounding gender identity. Although other males may be unsupportive of their trade choices, female classmates generally welcomed these boys into the shops.

Although other males may be unsupportive of their trade choices, female classmates generally welcomed these boys into the shops.

Teachers of Males in Nontraditional Occupations

Personal interviews were conducted with four teachers in programs nontraditional for males. Three of the teachers were female and one was male. Although generalizations are difficult to make due to the small sample size, several important themes emerged from this aspect of the study. First, teachers believed that negative parental pressures were a major factor when boys considered taking classes in their trade areas. Second, interviewees remarked that the lack of visible adult male role models in their field was detrimental for recruitment of students. Finally, instructors mentioned peer pressure placed upon boys considering nontraditional trades, especially students' difficulties in dealing with homophobic statements.

"The girls in shop are very accepting of boys; I see more openness and mixing together."

In regard to peer relationships within classrooms, however, teachers believed that girls were very supportive of a boy's choice to enter a field nontraditional for his gender. "The girls in shop are very accepting of boys; I see more openness and mixing together," said one teacher. Another remarked, "Males seem to excel once they stay in [the program]."

When asked about their use of non-sexist curricular materials, most teachers volunteered that they had invited adult male role models into classes for presentations or workshops about males in nontraditional occupations. Furthermore, to assist them in their recruitment efforts, two teachers in one program area remarked that they were developing a brochure to be used for career exploratory programs in the local elementary-grade schools.

Vocational teachers were generally supportive of males in their occupational areas and were excited about the prospects for attracting more boys to their fields. These teachers also commented that the females in their programs were accepting of boys and willing to engage in shop activities with their peers – in sharp contrast to the difficulties accorded female students in male shops.

The experiences of males in shops nontraditional for their gender stand in sharp contrast to that of females.

Recommendations and Conclusions

This concluding section offers a very brief summary of research findings presented in the body of the report. A list of recommendations (or action strategies) accompanies each subheading and encourages readers to consider ways of promoting gender-fair vocational education in their schools.

Reasons for Choosing V-T Schools

Recruiters need to assess ways to enhance the participation rates of students in nontraditional occupations. This study found that family legacy was an important factor contributing to student enrollment in v-t schools. That is, previous participation by family members in v-t programs often fosters participation by their own children in similar or related fields of study. This research also revealed that students' personal career interests in the middle school years were another motivator for attending v-t schools. In addition, attendance at v-t schools was perceived by students as a stepping-stone to furthering their education at a post-secondary technical school, community college, or university.

Given these considerations, the following action strategies are recommended:

- **Reassess present recruitment strategies and techniques to evaluate their effectiveness.**
- **Develop a strategic plan to recruit nontraditional students.**
- **Expand recruitment efforts by promoting and publicizing v-t schools among middle school students in both academic and non-academic tracks.**
- **Begin to share information about v-t schools with students and their families early on in childrens' middle school education.**
- **Introduce females and their families to nontraditional careers early in their educational experiences.**

Reasons for Choosing a Shop

This study describes several reasons for choosing a vocational shop. Many students had already established their career path at some point prior to entering the v-t schools, while others were assisted in trade choices through the ninth-grade exploratory program. However, participation in nontraditional occupations increases when significant numbers of same-sex peers also enter a program. In this study some girls stated that they did not want to be the only girl in a shop and that their shop experiences would be enhanced by having more than one female in the same program.

At times, students are closed out of shops that are nontraditional for their gender. Yet underrepresented groups, in particular, must have an opportunity to enroll in their first or second choice trade programs. There may be times when, for the sake of creating a mixed-gender program, student placement may need to override any other consideration, such as students' grades in exploratory programs and teachers' recommendations.

To facilitate entry into nontraditional shops and encourage participation by underrepresented groups:

- **Ensure that nontraditional students receive their "first choice" trade assignments whenever possible. Take a proactive stance to guarantee that underrepresented groups have a chance to participate.**
- **Consider the importance of trade assignment groupings allowing two or more students (instead of a single female or male) to enter programs nontraditional for their gender.**

Peer Interactions

Students entering nontraditional occupations will encounter a wide range of peer reactions to their presence in the shops. This study suggests that it is hard for women, entering traditionally male trade areas in particular, to win peer respect and acceptance. Females in nontraditional trades are often isolated and marginalized from the mainstream of shop culture. They also receive mixed, sometimes negative, messages from their peers.

To ensure that all students gain acceptance by their peers:

- **Sensitize students to potential difficulties they may encounter as learners in nontraditional programs.**
- **Devote class time to discussions of gender and sexual harassment.**
- **Facilitate positive peer interactions between females and males in shops.**

•Act firmly and directly to help nontraditional students become an integral part of the shop culture.

•Encourage team building to facilitate cooperative learning and egalitarian participation.

Peer Harassment

This report suggests that harassment was a major concern to female interviewees. Harassment was manifest in a variety of ways on the school shop floor: verbal joking and teasing was the most prevalent activity; sexual touching and grabbing occurred less frequently. According to the interviewees, formal student complaints and official reporting of these incidents were rare.

Harassment cannot be tolerated in the classroom. In order to minimize its occurrence:

•Intervene swiftly and effectively whenever and wherever harassment occurs; both teachers and administrators must be able to identify potential incidents which place students in uncomfortable settings.

•Consider that even a single complaint of harassment warrants prompt attention.

•Discuss harassment openly in the classroom. Set down rules governing student behaviors from the beginning of the school year.

•Address any inappropriate behavior that undermines another's ability to participate.

•Encourage all administrators and teachers to play a significant role in curtailing harassment.

•Implement a confidential complaint procedure, well publicized among the student body.

•Hold instructors accountable for the atmosphere in their shops; harassment incidents should be a part of their yearly teaching evaluations.

Responses to the Shop Environment

Female interviewees acknowledged that entrance into nontraditional occupations sometimes meant adaptation to male standards of behavior. Some female respondents felt overwhelmed by sexist shop experiences. Other girls were alienated from their peer group, selectively placed on the periphery of shop activities solely because they were female. Still others faced feelings of self-doubt, inferiority, and resignation about their capabilities. Nevertheless, many interviewees challenged the sexist assumptions of their peers and teachers. Rather than

accept a second-class status as shop participants, numerous female students demanded and received equal treatment.

In order to promote equality within the shop environment:

- **Schools must provide support for females by not only assessing, but also by reaffirming their abilities.**
- **Schools must provide safe outlets for communication so that small barriers to participation do not become larger ones.**
- **Efforts should be expanded to change the attitudes of males so that they become more supportive of females in nontraditional programs.**

Perceptions of Teaching Strategies

Interviewees articulated their concerns about teachers who may not understand the difficulties of being a student in a nontraditional program. Some respondents believed that their teachers were sensitive to students' needs; others claimed that nontraditional students were at a decided disadvantage in particular shops because their teachers placed unequal expectations and demands on them. In some cases teachers favored the boys over the girls, handing out project assignments in an inequitable manner. Consequently, some females were excluded from full participation in shop activities.

In order to promote equality within the shop environment teachers should work to:

- **Distribute shop assignments so that all students are able to achieve mastery in every skill.**
- **Ensure that performance standards and evaluations are the same for all students.**
- **Assist nontraditional students in creating new ways of completing tasks they otherwise find difficult. For example, teach skills such as lifting and carrying that facilitate the management of such tasks for smaller people.**
- **Serve as exemplary role models who shun sexist behaviors and harassment.**
- **Utilize teaching techniques that reinforce teamwork. Build incentives for student team members to teach and assist one another.**

Administration and Facilities

Interviewees reported their concerns about school management and the lack of proper facilities for females. Access to bathrooms specifically for women, for instance, was an issue that symbolically represented male "ownership" of the shops. Lack of extracurricular activities also connoted second-class citizenship for females in vocational education.

In order to alleviate issues of unequal access:

•Ensure that nontraditional students are not excluded from access to extracurricular activities.
Encourage participation in these activities to boost morale and foster school spirit.

•Provide physical facilities such as shop bathrooms that ensure privacy and availability to all students.

Several interviewees identified their female administrator as creating a positive environment in the school. In addition, she served as an important adult role model for female students. To increase adult role modeling for nontraditional students in v-t schools and to ensure a nonsexist learning environment:

•Strive to fill shop vacancies with teachers who are sensitive to the needs and concerns of nontraditional students.

•Make every effort to ensure that the next generation of vocational educators can promote sex-
and race-fair instruction.

•Hire qualified members of underrepresented groups for administrative or teaching assignments
in order to increase the availability and visibility of nontraditional role models.

Teachers of Students in Nontraditional Occupations

This study examined teachers' responses to questions about their female or male students in nontraditional programs. Trade teachers generally agreed that the "masculine" environment of their shops created impediments to success for their female students. Yet most teachers suggested that no one gender excelled in all shop activities. For instance, boys may be physically able to lift and carry heavy loads, they remarked, yet females are better at doing calculations and project layouts. Vocational instructors also believed that peer relationships were generally good on the shop floor.

When asked to talk about their recruitment strategies, few teachers had thought about specific techniques or curricular innovations that could be targeted to students in nontraditional fields. Vocational instructors relied upon the exploratory program as *the* student recruitment vehicle in their trade areas. Some teachers specifically asked female and male students or recent graduates to serve as role models and make presentations to their classes on careers in nontraditional fields. Yet most instructors believed that their recruitment efforts should be generic – appealing to no one student population in particular.

Teachers of females in nontraditional occupations seemed concerned primarily about the difficulties of managing girls in their male-dominated shops. They exhibited uncertainty about why girls would chose a "male" trade, and, when females entered their programs, they became overly protective of the girls – as a father would with his daughters. In contrast, teachers of males in nontraditional occupations offered little evidence to suggest that these students would be a "disruptive influence" upon the girls in their shops.

In an effort to promote a gender-fair learning environment, instructors should:

***Adjust their teaching styles and management strategies to avoid potential troubling situations where gender conflict may occur.**

***Utilize adult role models in nontraditional fields as recruiters.**

***Initiate single-sex peer support groups where school problems can be discussed and analyzed.**

***Design curricula so that all students work in every part of the shop and learn all the skills taught.**

In an effort to promote a gender-fair learning environment, schools should:

***Use teachers who have a good record of achieving equity to mentor other teachers.**

***Use goals for achieving equity as one standard for evaluating teachers and staff.**

Males in Nontraditional Occupations

Because a small sample of males in nontraditional occupations was interviewed, generalizations may be tentative until a more complete picture is developed. However, this study suggests that males have to deal with

harassment issues. In particular, several interviewees had received homophobic slurs and other sexist epithets from male peers (in other shops) about their participation in female shops. Although manifest in different contexts, gender-related problems affect males who choose to enroll in occupations nontraditional for their gender.

In order to minimize peer resistance and encourage participation by males in nontraditional shops:

- **Work with students on self-identity development.**
- **Organize male support groups to facilitate peer interaction.**
- **Conduct gender equity seminars or class sessions for boys.**

Conclusion

Interviewees' observations and comments have provided us with a wealth of information about what it is like to be a nontraditional student in vocational-technical schools in Connecticut. Students entered vocational-technical schools in order to obtain trade skills. Many believed that trade training offered them self-fulfillment, independence, and pride in their work—a feeling of personal empowerment that is intangible, unable to be objectively measured. Others singled out particular teachers and administrators whose supportive practices made these nontraditional students feel welcomed and wanted.

Unfortunately, other students had a much more difficult time in their vocational programs. Some female interviewees revealed that harassment, discriminatory shop assignments, and negative attitudes from peers, teachers, and administrators alike made their stay in the shops an unpleasant experience.

Schools must challenge the sexist assumptions and negative behaviors that inhibit equitable participation in the shops, and support students in overcoming these obstacles. We believe that gender equity must become a fully-developed institutional goal. Students must know that gender-balanced programming is an institutional priority and sexist behaviors will not be tolerated. Teachers who have developed effective strategies for ensuring equitable participation in their learning environments should be acknowledged and rewarded. Their expertise can be utilized in mentoring other teachers in the v-t school system. In addition, evaluation of nontraditional programs must be an ongoing process. Faculty, counselors, and administrators need to fully participate in setting goals for the attainment of a gender-balanced environment.

Attitudinal change is not an easy task. Sex-stereotyped behaviors are learned from a very early age and reinforced throughout one's lifetime. Yet vocational-technical schools can become sites where equitable practices are sanctioned, rigorously upheld, and guaranteed to all students. In this way more and more individuals may feel comfortable entering programs nontraditional for their gender, staying in shops that do not inhibit or threaten their personal growth, and completing a four-year program "carrying their own toolboxes."

ADDENDA

ADDENDUM A

VERTEC Field Sites

VERTEC utilized gender-balanced participation for including programs in this study. VERTEC defined gender-balanced participation rates as when at least 20 percent of program enrollments were in occupations nontraditional for students' gender. In this study program selection was based upon shops that approached the 20 percent threshold, however, some programs had single-digit enrollments of nontraditional students. They were included in the study because these programs provided a representative sample of trade offerings in the v-t school system. Twenty-one programs in 11 schools were identified as potential research sites. These shops were selected from among 34 different day trade offerings available in the state's 17 regional v-t schools.

Regional Vocational-Technical Schools (11)

Emmett O'Brien RVTS
141 Prindle Ave., Ansonia, CT 06401

Bullard-Havens RVTS
500 Palisade Ave., Bridgeport, CT 06610

H.H. Ellis RVTS
613 Upper Maple St., Danielson, CT 06239

Ella T. Grasso/Southeastern RVTS
189 Fort Hill Rd., Groton, CT 06340

Eli Whitney RVTS
71 Jones Rd., Hamdem, CT 06514

A.I. Prince RVTS
500 Brookfield St., Hartford, CT 06106

H.C. Wilcox RVTS
Oregon Rd., Meriden, CT 06450

Platt RVTS
600 Orange Ave., Milford, CT 06460

E.C. Goodwin RVTS
735 Slater Rd., New Britain, CT 06053

Vinal RVTS
60 Daniels St., Middletown, CT 06457

Oliver Wolcott RVTS
75 Oliver St., Torrington, CT 06790

Pilot Test Sites (2)
Howell Cheney RVTS
791 W. Middle Turnpike, Manchester, CT 06040

Windham RVTS
210 Birch St., Windham, CT 06226

Vocational Programs (21)

Allied Health
Auto Body
Auto Mechanics
Carpentry
Cosmetology
Drafting (Architectural)
Drafting (Mechanical)
Electrical
Electro-Mechanical
Electronics
Engine Repair (Marine)
Fashion Design
Food Service
Graphic Communications
Heating, Ventilation & Air Conditioning
Industrial Electronics
Machine Tool
Masonry
Plumbing
Sheet Metal
Welding

ADDENDUM B

Student Focus Group Interview Guide

1. Why did you decide to enroll in a v-t school?

2. For what reasons did you finally chose _____ ?

3. Were there specific things that the school did to encourage your participation or interest you in the program?

4. Without giving me specific names, are there people who helped you or encouraged you to participate in this program (ex. teachers, friends, counselors, family members . . .)?
[What are some of the things that they did?]

5. Were there others who have worked against you or made it harder for you to participate?
[What are some of the things that they did?]

6. Are there activities in which you participate that make your experiences in the v-t school better (ex. sports, clubs, groups . . .)? [What are they?]

Now I'd like to talk with you about your experiences in your shops during the time you have been here at _____ .

7. How does it feel to be a (girl/boy) in your shop?

8. Are there things your teachers do that make you feel comfortable or welcome in the shop?

9. Are there ways teachers run their shops or things the teachers do that make you feel uncomfortable or unwelcome in the shop?

10. How are you treated by the (boys/girls) in the shop?
[What are the kinds of things that they do?]

11. Do you think girls and boys are treated differently in this program? If so, how?

12. Pretend that we've hired you to tell the school how to get more (girls/boys) to enroll in programs like yours. What would you tell them to do?
(Ex. Are there activities you would suggest, things you would change, or new things you would try?)

ADDENDUM C

Teacher Focus Group Interview Guide

1. Approximately what percentage of students in your (------) class are (female/male)?

2. Why do you suppose so few (girls/boys) go into this trade?

3. In your observations of students in the program, what are their overall strengths and weaknesses?

4. What is your opinion of the performance and participation of the (girls/boys) as compared to the (boys/girls) in the shop (i.e., attitudes, skills, dedication to tasks, quality of work, etc.)?

5. Would you please describe the peer relationships between the males and females in your shop.

6. Are there specific curricular materials that you have used or strategies that you have developed to encourge participation by (females/males)?

7. Are there things currently in place in this school that encourage (boys/girls) to participate in programs nontraditional for their gender?
[What effect, if any, does the exploratory program have on students' choices of nontraditional fields?]

8. Do you have specific ideas about getting more (boys/girls) into your program?

ADDENDUM B

Student Focus Group Interview Guide

1. Why did you decide to enroll in a v-t school?

2. For what reasons did you finally chose _____ ?

3. Were there specific things that the school did to encourage your participation or interest you in the program?

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[What are some of the things that they did?]

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[What are some of the things that they did?]

6. Are there activities in which you participate that make your experiences in the v-t school better (ex. sports, clubs, groups . . .)? [What are they?]

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[What are the kinds of things that they do?]

11. Do you think girls and boys are treated differently in this program? If so, how?

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[What effect, if any, does the exploratory program have on students' choices of nontraditional fields?]

8. Do you have specific ideas about getting more (boys/girls) into your program?